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☞See Advertisement on last page.

POETRY.

AFAR FROM THE WORLD.

BY R. MACFARLANE.

Afar from the world we'll retire,
To some lovely valley alone;
How happy, wife, children and sire,
A sweet little world of our own.

We'll leave the proud city behind;
Its pomp, its deceit and its cares,
No more shall embitter the mind
With vanity's weakness and snares.

The wild doves will come there at morn,
And coo in the tall maple trees,
The robin will chaunt on the thorn,
And mingle his notes with the breeze.

The streamlet will sing by our door,
The soft rustling leaves of the vine,
Shall whisper the music of yore,
When happiness dwelt in lang syne.

Our heart burning offerings shall rise,
At morn with the bird on the spray;
The Ruler of all in the skies,
Will guide us in virtue alway.

Thus calmly will pass all our days,
Till life's mellow sunset shall close,
Like a harp breathing soft its last lays,
Sinking down to our lasting repose.

"THE LEG I LEFT BEHIND ME."

I'm stumpless quite, since from the shot
Of Cerro Gordo peggin'
I left behind to pay the Scott
My grub, and give my leg in.

I dare not turn to view the place,
Lest Yankee foes should find me,
And, mocking, shake before my face,
The leg I left behind me.

At Buena Vista I was sure
"That Yankee" must surrender;
And bade my men "Hurrah" for you'er
All going on a bender.

That all my hopes and plans were dashed,
My scattered troops remind me;
But though I there got soundly threshed,
I left no leg behind me.

Should Taylor of my track get scent,
Or Scott beat up my quarters,
I may as well just be content
To go across the waters.

But e'en should that fortune be,
Fate has not quite resigned me;
For in the museum I'll see
The leg I left behind me,

And when that I am beat at last,
In Montezuma's trenches,
I'll take my leg and lay it past,
And rest upon my haunches.

North River Traveling.

"Halloo, Steward," exclaimed a fellow in the steamboat ——, after he had retired to bed "Halloo, Steward."

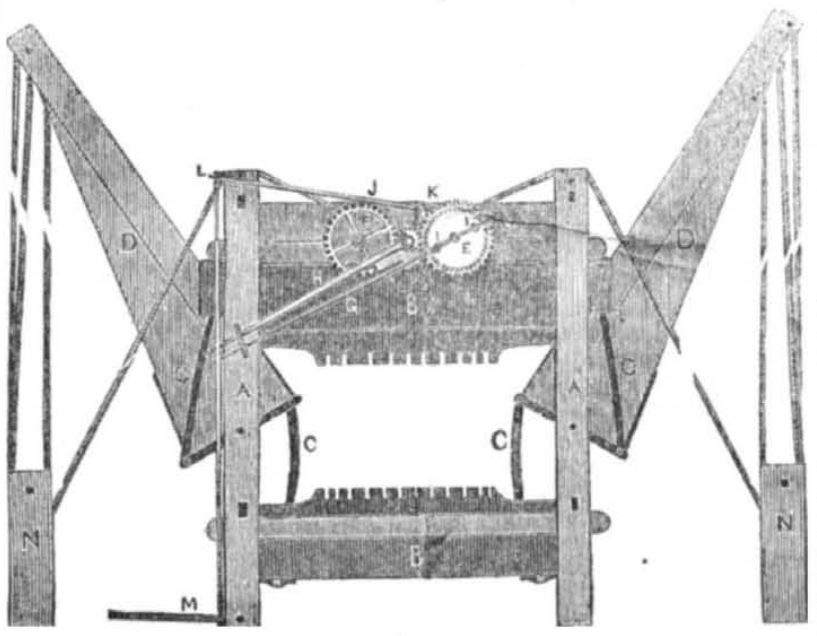
"What, massa."

"Bring me the way-bill."

"What for, Massa?"

"I want to see if these bed bugs put down their names for this berth before I did; if not, I want 'em turned out."

GUYON'S COMPOUND LEVER PRESS.



The above is an engraving of Guyon's press used for pressing cotton. It is intended to be operated,—driven by horse power, such being the way in which it is now generally used, but it is soon to be worked by steam, and this important power will undoubtedly render it more valuable. A A, represents the frame. N N, are two stancheon posts firmly placed in the earth, and from a swivel in D, D, the levers, is a rope which passes twice through the pulleys fixed in the posts N N, and then passes over the end of the frame and is wound on rollers, which are the axles of F and E, the two cog-wheels. The small cog-wheel between the two large wheels drives the whole machinery, as it is fixed on the shaft which is driven by the horse power. It will readily be observed that by the motion of the small wheel driving the two large wheels, the rope will be warped round the two rollers spoken of before, and the ends of the levers D D, will be brought down while the plate B, on which the cotton bale rests for pressing, will be raised and the cotton pressed against the upper block or plate B, by a very great pressure, as the ropes, spring levers C C, and the rollers, all act together. The eye of the mechanic will detect a great loss of leverage as represented by the cut, having the stancheon posts N N, placed so as to show the ropes hanging perpendicular. This arrangement is merely to show the different parts, as the posts are placed when in operation at such distances from the frame as to allow the ends of D D, to rest upon them when the bale is pressed up, thus using the whole leverage. J K, is a brake and shaft attached to a rope at L, and running down to a treddle M, alongside of the frame. When the levers may be coming down too fast, a man standing on the treddle M can regulate the speed of the brake. J J, are two pins on which is fixed the rod G, for throwing the wheel E out of gearing. The shaft H is to set on and off the machine, by means of a slipping coupling box. This is a most powerful press and has been in successful operation for some time. This machine can be seen in this city, at No. 95 Thompson street.

Phonography.

The Burlington Free Press has the following comical illustration of the new science of Phonography:—

"We are credibly informed that it is in contemplation to get up a class in Phonography (or bad spelling) at Winooski city forthwith, the special object of the enterprise being to teach young gentlemen and ladies in that thriving neighborhood to spell 'the wurdz that tha employ in makin luv to eech other so infurnul badly that tha can nether be red nor understud by eny pursun but the one to hoom tha are directed. Axiduntz have hapened in konsekwens of the want of a nolledge of the lauz of fonografe. Our informant adz that this is a great country, and that thar ar a grate menny peepl to the aker."

Astronomical.

Why does Bond's comet not set? Because it has got no tail,

Quite likely, for, according to the poet, because the moon has one, she is continually rising.

"Soon as the evening shades prevail,
The moon *takes up* her wondrous *tail*."

A Western Introduction.

Miss Wiggins, let me make you acquainted with an uncle of His'n just come down from Iona county, the town of Fremantle, village of Breadablane—come away up here to mill, (they hain't no miles yet, up there.) Uncle, this is Miss Wiggins, John Wiggins' wife, up yonder on the hill 'tother side of the mash—you con see the house from here. She comes down to meetin'.

Strength of Affection.

"The summer is no time to try the strength of affection," said Mrs. Partington, "though it is pretty well to sing love songs beneath a window at midnight in a rain storm, or stand billing and cooing on the door step till two o'clock in the morning. The winter season is the time. Many's the time my poor Paul has rid to see me the coldest weather, and often the dear creature has been found in the morning fast asleep in the middle of the cow-yard, with the saddle on his shoulders, from fatigue with courting me and riding a hard trotting horse. There *was* devotion. I never see a cow without thinking of poor Paul;" and saying which, the old lady hobbled to bed.

Striking Anecdote.

Charles XII, King of Sweden, drank sometimes to excess, so as even to disturb his reason. In one of his drunken bouts he lost the respect which was due to the Queen, his mother. She retired to her chamber, overwhelmed with grief, and remained there on the following day. As she did not make her appearance, the King inquired the cause. This being told, he took a glass of wine in his hand, and went to the Queen's room. "Madam," said he to her, "I have learned that yesterday, in my cups, I forgot myself towards you. I come to ask your pardon; and, to prevent a recurrence of such a fault, I drink this glass to your health; it shall be the last during my life." He has kept his word, and from that has never tasted wine.

'You belong to the lower classes,' as the fruit said to the root of the tree upon which it grew.'

LIST OF PATENTS

ISSUED FROM THE UNITED STATES PATENT OFFICE,

For the week ending August 14, 1847.

To Henry Stanton, of Washington, D C., for improvement in Lighters for Vessels.—Patented August 14, 1847.

To Mary Ann Mead, administratrix of James Mead, decesed, of Aurora, Indiana, for improvement in packing and pressing Cotton.—Patented August 14, 1847.

To Thomas J. Rodman, of Pittsburg, Pa. for improvement in casting Ordnance, &c. Patented August 14, 1847.

To Richard Craggs of Williamston, and Oliver Reynolds, of Webster, New York, for improvement in Planting Machines. Patented August 14, 1847.

To James R. Stafford, of Cleveland, Ohio, for improvement in apparatus for Drying Grain, Flour, &c. Patented August 14, 1847.

To Bernard Antognini, of New Orleans, La. for improvement in Cooking Apparatus Patented August 14, 1847.

To Francis A. Calvert, of Lowell, Mass., improvement in Guard Cylinders for burring machines. Patented August 14, 1847.

To Ebenezer M. Rice, of Worcester, Mass., for improvement in Coupling Line Shafts.—Patented August 7, 1847.

To Jesse Reed, of Marshfield, Mass., for improvement in Steering Apparatus. Patented August 14, 1847.

To Frederick W. Wood, of New York, for improvement in Rivets for Leather Bands.—Patented August 14, 1847.

To William H. Jamieson, of New York, for improvement in Riveting Leather Bands, (having assigned his right to William Kumbell.) Patented August 14, 1847.

DESIGNS.

To Asa C. Brownell, of Boston, Mass., for Design for Stoves. Patented August 15, 1847.

To William Hickok, of New York, for Design for Stoves. Patented August 14, 1847.—Ante-dated Feb. 12, 1847.

DISCLAIMER.

To Philo P. Stewart, of Troy, New York, for summer and winter Cooking Stove. Patented September 12, 1838. Disclaimer August 14, 1847.

For the week ending 21*st August*, 1847.

To Abraham Van Riper, of Washington township, County of Bergen, N. J., for improvement in Baskets. Patented August 21, 1847.

To Samuel Pierce, of Troy, N. Y., for improvement in Cooking Ranges. Patented August 21, 1847.

To Charles Lafferty of York Springs, Pa., for improvement in machinery for setting and filing Saws. Patented August 21, 1847.

To Jacob Behel, of Mifflintown, Pa., for improvement in Winnowing Machines. Patented August 21, 1847.

To Charles W. Roberts and John Hambly, of Philadelphia, Pa., for improvement in machinery for rasping Dye-woods. Patented August 21, 1847.

To James M. Evarts, of New Haven, Conn. for improvement in Window Blind Fasteners. Patented August 21, 1847.

RE-ISSUES.

To Alexander Dickerson, of Newark, N. J. for improvement in apparatus for the manufacture of Malleable Iron. Patented March 15, 1837. Re-issued August 21, 1847.

To Moses Pond, of Boston, Mass, for improvement in Cooking Ranges. Patented October 20, 1846. Re-issued August 21, 1847.

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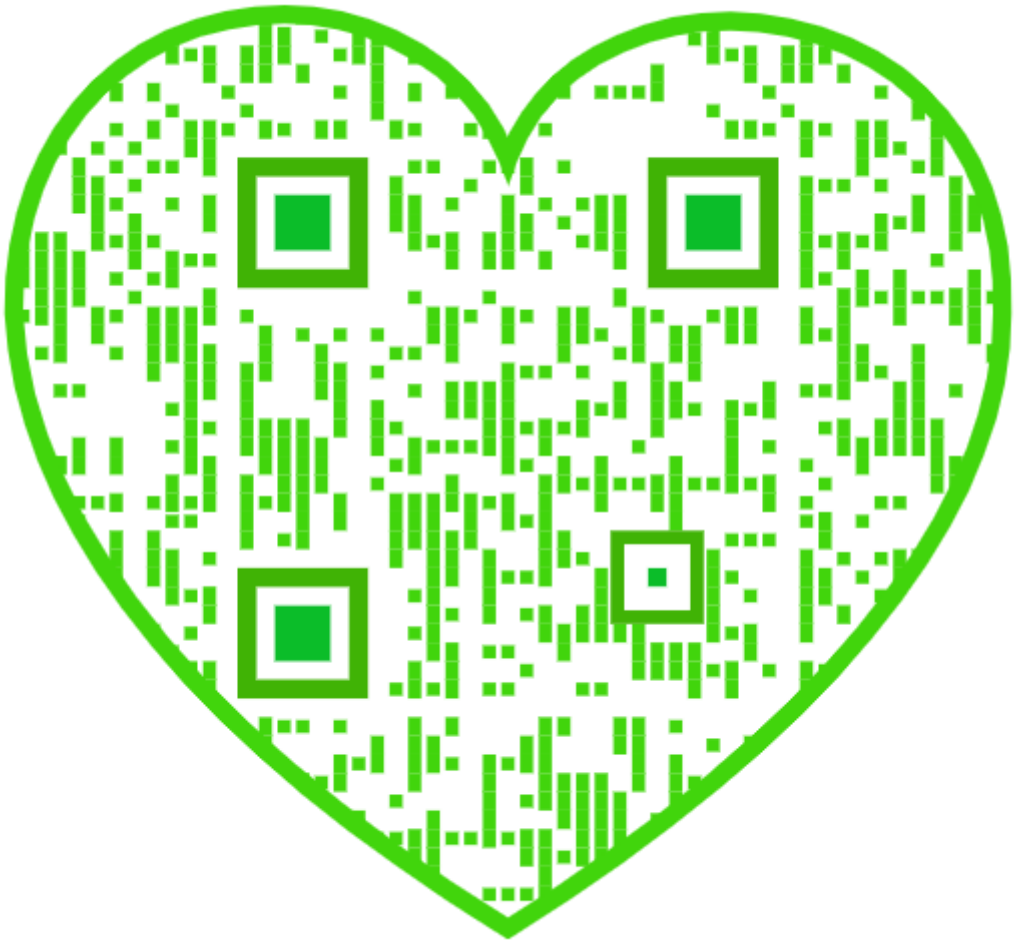

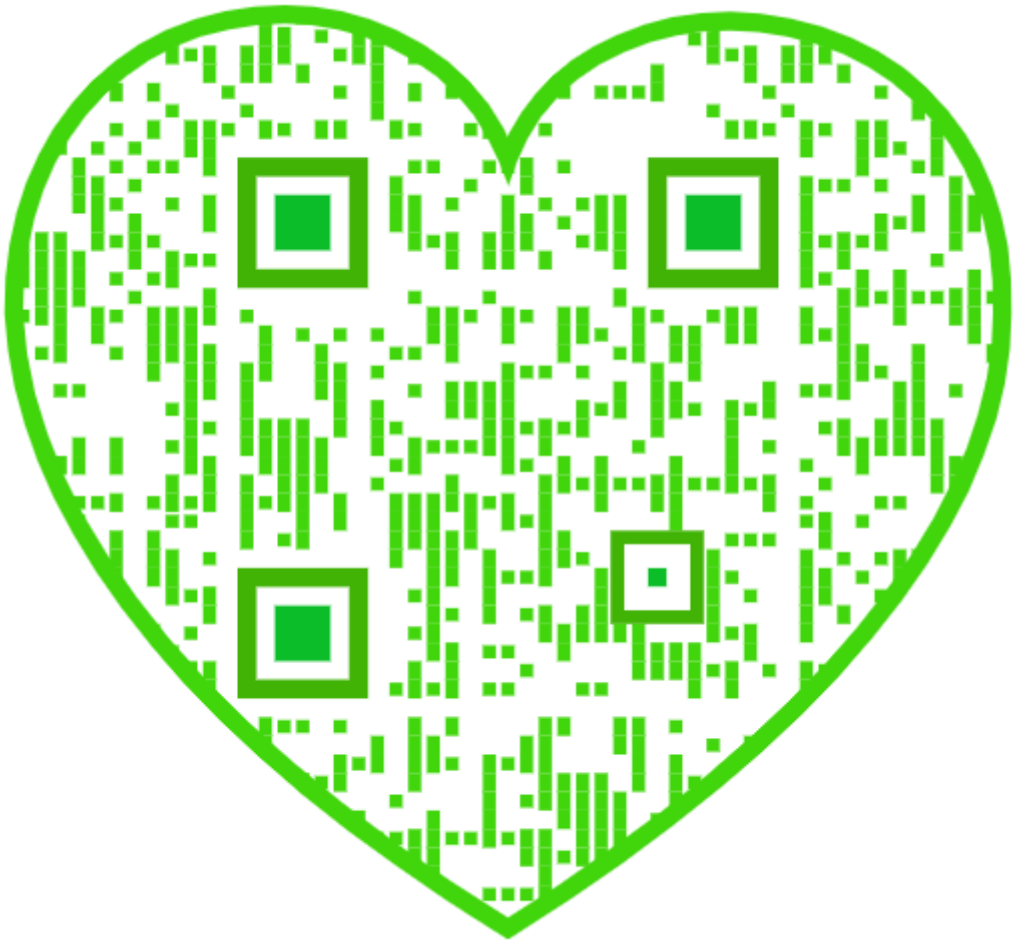

Nickel.

Nickel, from its scarcity, and the place it has taken in our manufactures in the formation of an alloy, as a substitute for silver, besides being applied to various other purposes in the metallic arts. has become a valuable and important metal. Its produce, as a commercial metal, has hitherto been confined to some valuable mines in Saxony, which (now at a depth of 450 ft.) are said to be declining in produce, while the cost of production has greatly increased. At Chatham, in the state of Connecticut, there is a mine of cobalt and nickel, first discovered and worked by some German settlers, for cobalt, but finding that nickel greatly preponderated—a metal whose properties were then unknown, and for which there was no market—the mine was abandoned, It afterwards became the property of Governor Seth Hunt, who, after about three years' exploration, during which period he obtained a considerable quantity of cobalt, abandoned it from the same cause. The strata in which the veins are situated is a soft mica slate formation, of the same kindly nature as those which occur in the valuable mines of Saxony, being much softer near the lode, which is always considered a promising feature. There seems to be no doubt as to the lodes continuing, or even improving, in depth; and from the present commercial value of both metals, the judicious working of this mine cannot but be attended with the most profitable results.

A New Town of Brooklyn.

We are informed that about forty enterprising agriculturalists of this vicinity, who are to be joined by a party of three hundred emigrants now on their way from Bristol, Eng., will in a few weeks proceed to Western Virginia for the purpose of forming a settlement to be called Brooklyn, in honor of our sister city. Each has purchased a tract of land for $1 12½ per acre, and among the party are some wealthy and substantial farmers, who are amply provided with the means and appliances to subdue the difficulties of forest life. These lands are situated on the banks of the Ohio river, 100 miles from Cincinnati, and were recently held by Mr Clark and others of Brooklyn, who has himself removed thither. An agent has been exerting himself in England in order to form this colony. We understand that they have every inducement to settle upon these lands.

Oil of Roses.

The following is a simple, though excellent method of obtaining essential oils.

"Take any flower you like, and stratify them with common sea salt, in a clean earthen pot. When thus filled to the top, cover well and place in cellar. Forty days afterwards, put a crape over the pan, and empty the whole to strain the essence from the flowers by pressure. Bottle the essence and expose it four or five weeks in the sun and dew of the evening to purify. One single drop of this essence is sufficient to scent a whole quart of water.

Grand Explosion of the "Chase" Fortune.

We see, by an article in the Yarmouth Register, that the monster bubble of the "Chase Property in England," is nowhere. A Boston gentleman, who employed the Barings, of London, to cause an investigation of records for proof that a fortune is in reserve for the Chase family of America, received a letter from them by the last steamer, in which they state that no evidence of the fact has been discovered, and send a bill of about $50 expenses in the research! Rather a sorry termination to so great an inheritance.

Trade of London.

The number of vessels with cargoes from foreign ports arrived in London during the six months to the 5th inst, was 4284, and the tonnage 794,268 tons, against 3296 ships and 660,567 tons in 1846, the increase arising chiefly from the imports of corn and provisions.

Valuable Alloys.

The Paris Scientific Review has published for the benefit of the industrious workers in metals, the best receipts for composing all the various factitious metals used in the arts. The following are a few :—

Statuary bronze—Darcet has discovered that this is composed of copper, 91·4; zinc, 5·5; lead 1·7; tin 1·4. Pinbhbeck—copper 5; zinc 1. Bronze for cannon of large calibre—copper, 90; tin 10. Bronze for cannon of small calibre—copper, 93; tin, 7. Bronze for medals—copper, 100; tin, 8. Alloy for cymbals—copper, 80; tin, 20. Metal for the mirrors of reflecting telescopes—copper, 100; tin, 50. White argentan—copper, 8; nickel, 3; zinc, 3½—this beautiful composition is an imitation of silver to the degree of 750·1000. Chinese silver—Mons. Meurer discovered the following proportions—silver, 2·5; copper, 65·24; zinc, 19·52; nickel, 14; cobalt of iron, 0·12. Tutenague—copper, 8; nickel. 3; zinc, 5. Printing characters—lead, 4; antimony, 1. For small types and for stereotype plates—lead, 9; antimony, 2; bismuth, 2.

Pittsburg Coal Trade.

The Pittsburg Gazette estimates that the exports of coal from that city up to the present time this year will amount to five millions of bushels, and that fourteen millions of bushels will be exported during the entire year. It is worth from four to four and a half cents per bushel at Pittsburg. There are nine hundred and sixty eight boats engaged in this trade valued at one hundred dollars each.

The Corn Trade at Constantinople.

According to *Semaphore de Marseilles*, the corn trade is particularly active at Constantinople. The exportation continued on a large scale. Prices were moderate, but the freight was exorbitant. In the space of three or four days 500 vessels had crossed the Dardanelles, most of which were proceeding to load grain in the Black Sea harbors. Of these 400 had been freighted for the purpose. It is impossible to form an idea of the immense profit Turkey has derived from that trade.

Railways in Peru.

Peru has accepted the proposal of Mr. William Wheelright to construct a railway (the first in that country,) between Lima and Callao. It will be about six miles in length, cheaply constructed, with one set of rails; and, running from Lima to the water's edge, it will receive, as regards both passengers and goods, almost the entire commercial traffic of the republic.

Ploughing With Elephants.

It is stated that in Ceylon eleyhants are employed in ploughing rice fields and in preparing new grounds for the cultivation of copper, pepper, &c. One of these animals when well trained, it is said will do the work of twenty oxen; consequently more labor is performed in a given time, and the period is hastened for putting in the crops. The price of an elephant in Ceylon varies from $50 to $75.

The Moon.

The moon, when at full, reflects upon the earth only about one three thousandth part of the light of the sun; and the lunar rays, even when concentrated by a powerfullens, and the focus directed upon the bulb of a delicate thermometer, do not effect it in the slightest degree; hence the phrase, 'the pale cold moon,' is not only poetically beautiful, but philosophically correct.

Hat for General Taylor.

W C. Warning & Co., Phœnix Factory, Yonkers, have recently manufactured a beautiful three-cornered hat for General Taylor. It is made entirely of wool, white as the driven snow.

New Composition for Roofing.

Mr. R. Beman, of this city, has invented a new composition for roofing, which must eventually take the place of the old method for covering houses. Besides being both fire and water proof it is more durable than either tin, copper, or zinc, and can be afforded at one half the cost, an advantage which speaks for itself. It can be laid on old roofs, either of wood or metal, at a trifling cost. The inventor has placed this composition on upwards of 2000 buildings.

Great Lantern.

A Lantern has been raised 75 feet above the dome of the Capitol at Washington, to light the building and public grounds. It will cost about $17,000. The diameter of the lantern is 6 feet; body and chamber 6 feet high; base of do 5 feet 6 inches; dome and upper work to the ball 9 feet; arrow of vane 6 feet 6 inches; globe on top of the vane 15 inches diameter; total height over 20 feet. When the glass is placed in the lantern the weight of the lantern and fixings will be about 800 pounds. The mast will be about 3500 and the upper braces 2000 pounds. This lantern will be a lighthouse to the sailors on the Potomac; and a beacon to benighted traveller coming to the city, rather than a light to the grounds.

Fears are entertained about the safety of the dome with such a great weight on the end of a pole acting as a lever in heavy gales of wind.

How to make an Enemy.

Trust a man for your paper and he thinks he is your patron; he has taken your paper ever since you started; he has stood by you through adversity and prosperity, and has been, in every sense of the word, "a devil of a patron." He wants an office, and what are his claims to your support? He has always taken your paper. He has had all his printing, blanks, &c., done at your office. Indeed has had his business card in your paper. Isn't such a man entitled to support? Well, when you want to build a new office, when you want bread for your family, &c., your send your bill to him and he gets mad and becomes your enemy for life. Why, he never dreampt of paying at all, and only considered himself merely a patron for the good of the concern.

A Hint to Young Married Women.

Never tell your own affairs to any old gossipying house-wife. Let her appear ever so specious—so sincere—so candid—be sure to avoid her, and keep your own counsel, for the only reason she has for prying into your sesecrets—for insinuating herself into your confidence, is to learn some error, or deformity existing in your family, on which she may feast in secret delight for a luxurious moment, and then share some of her choicest bits with her neighbors. Treasure this up and act upon it; and it will save you years of mortification, if not of heart-burning sorrow.

Fires.

A large and destructive fire broke out in this city on Sunday evening last, near the sugar refinery in Water street. From the distance which water had to be conducted it spread fearfully before the engines could operate effectually upon the destructive element. The ship engine of the French steamer was there, with some of the crew and officers.

There was another large and disastrous fire on Monday evening. It was in the extensive foundry of Stillman, Allen & Co., known as the Novelty Works, foot of 12th street, and used for the manufacture of steam engines, castings, iron ships, boats, &c. It was an immense building. The loss is estimated at $8,000—covered by insurance.

The French Steamer Missouri.

This vessel it seems must either have very strange management or else very ill fortune. She was found by a British Revenue Cutter, about one day's sail from Halifax, without coal and almost without provision. She arrived here last Saturday. Her engines are beautiful, but her nautical architecture compares badly with American workmanship.

They have an excellent way, says a Massachusetts paper of keeping the boys at school in Wiscasset. The selectmen have ordered the arrest of all boys who may be loitering around the streets, during school hours saying, that they must either attend school or devote their time with diligence to some lawful employment.

Might against Speed.

One of the candidates for the House of delegetes, at Hagerstown, Md. stands 6 feet 4 inches high, and will run 2 miles in 12 minutes; and the other weighs 300 lbs. and carries a barrel of flour under each arm.

FROM MEXICO.

New-Orleans papers to the 17th were received at Richmond. They contain nothing later from the army.

Sickness prevails in the squadron—144 officers and seamen are reported sick

Sickness is reported on board the Steam frigate Mississippi, which arrived at Pensecola on the 14th, but none seriously.

Twenty-seven deaths from Yellow Fever occurred in the Hospital at New Orleans on the 16th.

Steamships.

The Washington will be placed on the sectional dock on Saturday Morning, at 5 o'clock, to be coppered, and will probably remain there about ten days.

It is not expected that this steamer will be able to sail before the middle of Sept. The houses on deck are being removed, and the bulwarks altered, so that she will be relieved of more than a hundred tons of top hamper. She is to have a flush deck and no second class cabin. The government is better pleased with her performance on her first trip, than it was with her appearance before it.

Two shafts for the Lafayette are in process of manufacture by Mr. I. B. Ward, weighing 20,000 pounds each.

The Cunard steamers of the 4th and 19th of August, had their full complement of passengers long before the day of sailing.

Connecticut Valley.

All eyes are now turned to the little space between Brattleboro' and Bellows Falls, as the connecting link in the great chain of Railroad communication between the Canadas and New York.

Launch.

The ship Memnon, 1000 tons burden, was launched on last Saturday afternoon from the foot of fourteenth street, to the satisfaction of quite a number of spectators and of her owners and builders.

Providence and Worcester Railroad.

This road will be open to Woonsocket in the course of the present week, and to Worcester by the middle of October. The work is going on with great activity.

The great Erie Railroad.

It is expected that this gigantic undertaking will be finished about the autumn of 1848. There are now 3000 men engaged on it.

Save Your Bones.

The Swedish bark Gotheburg cleared at the custom house in Boston, on Saturday, for Falmouth, Eng., with a cargo of bones, valued at $5000.

Gen. Packer, of Lycoming, Pa., has just discovered that he was elected to the Legislature last fall, although his opponent was returned and served out of the entire session.

A catfish was purchased in the Cincinnati market, lately, which, on being opened, was found to contain in its stomach, a silver thimble, a gold ring, and a counterfeit dime, tied up in a rag.

The Governor of Indiana has issued his proclamation announcing the organization of the New Albany and Salem Railroad, in that State.

Capt. Kellet, of the Chinese Junk, is in Boston, making arrangements to exhibit his vessel.

The Journeymen Tailors of Philadelphia are holding meeting to establish a rate of wages.

All the letters and $60 in cash were stolen from the Post Office in Derby, Conn., a few nights since.

Punch says he once saw a father knock down his boy, and he thought it the most *striking* picture of a *sun down* ever he beheld.

Plank roads are coming into very general favor. They originated in Canada in 1835.

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SPARE THE BIRDS.

BY REV. GEORGE W. BETHUNE, D. D.

Spare, spare the gentle bird,
Nor do the pretty warbler wrong,
In the greenwood is heard
Its sweet and happy song;
Its song so clear and glad,
Each listner's heart hath stirred,
And none, however sad,
But blessed that happy bird.

And when at early day
The farmer trod the dew,
It met him on the way
With welcome blithe and true;
So, when, at weary eve,
He homeward wends his way.
Full sorely would he grieve
To miss the well loved lay.

The mother who had kept
Watch o'er her wakeful child,
Smiled as the baby slept,
Soothed by its wood notes wild;
And gladly had she flung
The casement open free,
As the dear warbler sung
From out the household tree.

The sick man on his bed
Forgets his weariness
And turns his feeble head
To list its songs that bless
His spirits, like a stream
Of mercy from on high,
Or music in the dream
That seals the prophet's eye.

O! laugh not at my words,
To warn your childhood's hours;
Cherish the gentle birds—
Cherish the fragile flowers.
For since man was bereft
Of Paradise, in tears,
God the sweet thing hath left,
To cheer our eyes and ears.

Too Late.

Some men are always too late, and, therefore accomplish through life, nothing worth naming. If they promise to meet you at such an hour they are never present till thirty minutes after. No matter how important the business, either to yourself or him, he will be just as tardy. If he takes passage in the steam boat, he arrives just as the boat has left the wharf, and the cars have started a few moments before he arrives. His dinner has been waiting for him so long that the cook is out of patience, and half the time is obliged to set the table over again. This course the character we have described always pursues. He is never in season at church, at his place of business, at his meals, or in bed. Persons of such habits we can but despise. Much rather would we have a man too early to see us, and always ready, even if he should carry out his principles to the extent of the good deacon, who in following to the tomb the remains of a husband hinted to the bereaved widow that, at a proper time, he should be happy to marry her. The deacon was in season; for scarcely had the relatives and friends retired to the house before the parson made the same proposition to the widow. "You are too late," said she, "the deacon spoke to me at the grave."

A Touching Incident.

A little boy, named William Hunter, had been for some months ill, at the Massachusetts General Hospital, Boston, and his mother was with him. On Thursday evening, he sent for the Superintendant, and asked him to pray by his bed-side. Then, after many thanks for his kindness, he said, "I shall die to-morrow morning, and I am not afraid to die; but Oh! do pray for my mother?" During the night, he made repeated enquiries, as with earnest longings, for the approach of day. Morning came, and the child sunk into a deep, sweet sleep, from which he never awoke on earth.

Profits of Painters.

It is worthy of a remark, as a circumstance to excite no little surprise in England, and perfect astonishment on the continent, that for the four pictures painted by Mr. Landseer this year he received nearly seven thousand pounds, viz: £2,400 for the paintings, and £4,450, for the copyrights.

Space.

Through our unassisted sight we discover in the depth of the heavens innumerable stars; the telescope, multiplying the power of our eyes, shows us beyond these nearer globes—others whose infeebled light appears to melt in the distance; imagination under the guidance of analogy, leads us to suppose beyond these, other worlds again whose light, lost in immensity, will never reveal to us their real existence; and beyond these we shall picture another more distant range, and worlds without end, in the same manner as we conceive series of numbers, to which we can add other numbers without limit. Such is the philosophycal idea of infinity attached to space; of imagination placed a limit beyond which, worlds do not exist, it would still suppose the existence of light, or of some fluid, on which to settle itself; for, if you subtract entirely from the idea of space or extensiveness, the idea of matter then remains nothing which could serve as a basis for an idea.

The Bulk of the Earth.

The earth, speaking roundly, is 3000 miles in diameter, the atmosphere is calculated to be 30 miles in altitude; the loftiest mountain peak is estimated at 5 miles above the level of the sea, for this height has never been visited by man, the deepest mine that he has formed is 1650 feet; and his own statue does not average 6 feet. Therefore, if it were possible for him to construct a globe 808 feet—or twice the height of St. Paul's cathedral—in diameter, and to place upon any one point of its surface an atom of 1-4380th of an inch in diameter, and 1 720th part of an inch in height, it would correctly denote the proportion that man bears to the earth upon which he moves.

The Ruins of Nineveh or Nimrood.

The attention of the architectural world is being highly excited by the very singular architecture of the bas-reliefs recently received in England from the ruins of Nimrood. Of the conjectures as to their age some send back their date to an extreme remote antiquity, but the least sanguine archæologists incline to about 600 or 700 B. C. Here we have of almost the Homeric age, a lofty castle, with fortified turrets; a gateway, having a circular head; circular headed windows on an upper story; crennelated battlements; overhanging parapets with embrasures; the entrance gateway; masonry of perfect workmanship, equal to that of the best period of the Greek art.—Since the Elgin marbles were brought to England no similar arrival has occurred so calculated to excite the interest of artists and archæologists as these Assyrio-Babylonian remains.

Since the British Museum has undertaken the excavations at Nimrood and Mosul, their agent has secured a good collection of sculptures; above 60 have been already sent to Bagdad. Amongst them is an obelisk, in black marble, about seven feet high, and evidently of the highest antiquity. It appears to have been made to celebrate the Indian conquest of some monarch, probably Nisus himself, or Semiramis; it is in the finest preservation. He has also removed to the river one of the large winged bulls (about 10 feet square,) and a companion in the shape of one of the lions.—They will be sent to England.

The Acids of Tobacco.

Prof. Goupil, of France, has reported a series of experiments on tobacco. The chief organic acid is the molic. Bimilate of ammonia may be readily obtained from the plant, which in its dry state affords three to four per cent. M. Goupil has discovered that the conversion of the precipitated malate of lead into crystaline mass does not take place unless there is free acid present. This is an important fact, as the conversion into crystals is commonly assigned as a distinguishing character. Citric acid is found in the tobacco plant, but in a very small quantity. No other organic acids could be found.

Ivory Pens.

Pens made of ivory are now becoming into use. They are shaved down to an almost transparent thinness, and perfectly susceptible of being nibbed, mended, &c., with all the facility of an ordinary quill. They are of French manufacture.

Factories.

The Woodbury Factory, near Baltimore, is four stories high. It has two breast wheels 20 feet in diameter, also seventy five horse power engine. The cylinder is 20 inches is diameter, stroke 2½ feet. The steam and exhaust pipes form two symmetrical columns, the heater being beneath the engine. It is driven by 4 double flue cylindrical boilers, 48 inches in diameter and 20 feet in length, the diameter of the flues being 14 inches. Although nominally of 75 horse power, it is capable of being worked above the conventional power of 100 horses. The principal floor of the building is occupied with 60 heavy duck looms, that being the article manufactured.—These looms are the workmanship of Messrs. Denmead; they are capable of being adjusted to the manufacture of soft or hard duck; the former being used for "square," and the latter for "fore and aft" sails. The difference in the manufacture of the two articles consists in the hard quality, receiving two blows of the beater for each flight of the shuttle, while the other receives but one. The second floor is occupied by the carding machines, which, in the present advanced state of the cotton manufacture, are the most curious and interesting part of the operation. The third floor is occupied by the spinners, and contains 2800 spindles. This number of spindles, owing to the heavy thread manufactured, to be wove into duck require as much cotton as three or four times their number would, were they intended for the lighter fabrics—ninety thousand pounds of cotton being manufactured into duck per month in this establishment.

The population, including the operatives and their families, at Woodbury, is about 490 persons. The wages of the grown females vary from $12 to $22 per month. Their board and washing costs them $6 per month, leaving from $6 to $16 for other purposes. We were informed that there were several families at the factory that had saved from the profits of their labor, amounts exceeding $500 each, and this without stinting themselves in their manner of living during this time. The only objection to the system upon which this factory is conducted, is the number of working hours—twelve per day. We were informed however, that it was the wish of both employers and operatives, in most of the different factories in the neighborhood, to shorten the working time, and that it wanted only a general understanding among all parties to effect a change.

Utica Steam Woolen Factory.

At the Utica Steam Woolen Factory from 350,000 to 375,000 lbs. of fleece wool is required annually for manufacturing by this company, at a cost generally of about $125,000.—The cloth manufactured daily exceeds 450 yards. The amount of goods sold each year will amount to upwards of $300,000—whereas the cost of buildings, machinery, lots, &c. does not exceed $75,000, the whole of the machinery being now in full operation. The wool purchased since 1st of June last, by the company, is about 384,000 lbs., costing about $115,000.

Fashionable Science.

A Paris letter says that their fashionable young gentlemen are amusing themselves with the most absurd wagers, such as asking their way of a certain number of people in a certain time; walking from one point to another blindfolded; or driving a certain distance before their opponent can fire a given number of pistol shots. The last dates from 1783, when the Duke of Orleans bet the Count de Genlis that he would go to Fontainbleau, with the post horses, and return ere the Count could prick 700,000 holes in sheets of paper with a pin. The Duke won.

Physicking the Mississippi.

A medical gentleman at the Chicago convenvention remarked that, according to the most approved formula for the preservation of bodily health, the Great Father of Rivers kept his head cool in the frigid regions of the north and his feet warm in the sunny air of the tropics. It was now only necessary te remove the obstructions from its bowels to make it the most healthful alimentary canal in the known world.

SCIENTIFIC MEMORANDA.

A company has been formed in Paris with a capital of one million of francs, under the name of "Company for the purpose of studying, constructing and experimenting new inventions connected with locomotives." The company is to commence operations by the trial of an invention of a Dr. Guyot, which consists of a locomotive of three pistons acting on the same axle, and worked by three cylinders, each receiving a separate and distinct supply of steam—so that the locomotive can be worked with one, two or three pistons, according to the weight of the train. It is asserted that this invention will enable an economy of 20 per cent in the consumption of steam to be effected, and of from 20 to 50 per cent additional power to be obtained.

Paper is now manufactured in all its stages by machinery, and thus, instead of a single sheet being made by hand as in the olden time, a stream of paper is poured out which would form a roll large enough to extend round the globe, if such a length were desirable. The proprietors of one these improved machines in England, it is said, spent the enormous sum of £40,000 in vain attempts to render it capable of determining the exact length of the roll, and at last accomplished their object at the suggestion of a bystander, by a strap revolving on an axis, at a cost of *three shillings and sixpence!*

The Turks differ from us even in their most trifling habits. The barber pushes his razor from him; the carpenter, on the contrary, draws the saw to him, for all the teeth are set in; ours pushes it out from him, for all the teeth are set out: the mason sits while he lays the stone, ours always stands; the scribe writes on his band, and from right to left; our always writes on a desk, and from left to right; but the most ridiculous difference consists in the manner of building a house, we begin at the bottom and finish at the top; the Turks begin at the top, and the upper rooms are finshed and inhabited while all below is like a lantern.

A member of the Royal College of Chemistry in London, an institution numbering this season 150 students, has signified his intention of giving the sum of £1000 as a premium for discoveries in chemistry, having particular reference to the means which should render iron when applied to all ordinary purposes as little liable to rust or corode as copper.

The slow transmission of heat through loosely coherent clay and sand, was tested recently in England, by an experiment in which a thickness of half an inch of such matter intercepted the heat of a mass of 11 tons of white-hot melted cast iron for 20 minutes without the heat on the outside of the vessel being sufficient to pain the hand.

The air in the lungs is exposed to 170,000,000 of cells, having a surface thirty times that of the body, and during respiration the air is deprived of oxygen and becomes loaded with deadly carbonic acid gas and rendered totally unfit for a second respiration, being in reality no longer atmospheric air but a poisonous gas.

On the north coast of Ireland, a gentleman saw above a hundred crows preying upon muscles. The mode of doing this was remarkable—each crow took a muscle up in the air twenty or forty yards high, and let it fall on the stones; and thus by breaking the shell got possession of the animal.

The propeller of a steamer has recently been furnished with means of preventing the rush of water against it when not in use, and rendering the dead wood an uniform surface when sailing.

Thick rings of Vulcanized India rubber, alternating with metal discs, have been applied to form buffer springs for railroad carriages.

Steam produced under 32 lbs. pressure on the square inch will set in motion 217 times its bulk of air.

Pneumatic pressure has been applied to the pile driving machine.

The muriate of tin is extensively used now in whitening woolen goods.

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NEW INVENTIONS.

To Inventors.

We have applications almost every day, for the buying of different Patent rights. One gentleman writes us from Tennessee that he desires to buy the right of the best submerged Water Wheel—one able to drive two run of stones. Another writes us for the purpose of buying the best machine for making wrought iron nails, and there are applications for the purchase of almost every kind of machine.—We have in most instances been able to give direct information, or make agreements of sale, yet there are a number of machines, which, if inventors, or patent right owners wish to be well known and to get good sale for the same, they will not fail in letting us know the qualities of their machines and their terms of sale.

New Propeller.

Mr. Henry Owens, of this city, has invented a new method of propelling vessels, which promises to be very important in navigation. Instead of a paddle wheel there is an endless chain of paddles, which pass over and are driven by two hob cylinders, or rollers. These paddles are set at the least possible angle for resistance when entering the water, and for weight by lifting the water when leaving it.—Measures are in progress to secure a patent. A model may be seen at this office.

Revolving Blind Hinge.

Mr. L. Talbot, of Bristol Co., Pa , has invented a new revolving Blind Hinge, which has been recommended as highly useful. as it is a complete lock to the blind and secures it from operation on the outside.

Another Propeller.

Mr. Archibald McQueer, of Fall River, Mass., has invented a new propeller, which by experiment has given great satisfaction in regard to utility. It is not upon the screw or paddle system. We will be able in a short time to present an engraving and description of it.

New Composition.

Mr. Charles Branwhite has taken out a patent for the manufacture of umbrella handles, &c., by a very simple and cheap method, as follows :—

Take half a pound of starch and dilute it in half a pint of cold water, then put a quart of water in a gallon open vessel and let it boil—then pour the diluted starch into the vessel and when it again boils add three pounds of rye flour and stir it well while on the fire until all are mixed. When this is cold take it out of the vessel and put it on a flat surface. Then take finely sifted dry mahogany sawdust (or finely sifted wood ashes, or whiting may be used) and stiffen the dough to the consistency of good putty, by working the whole together with the hands, and it is ready for use, and makes when dry a fine hard substance.

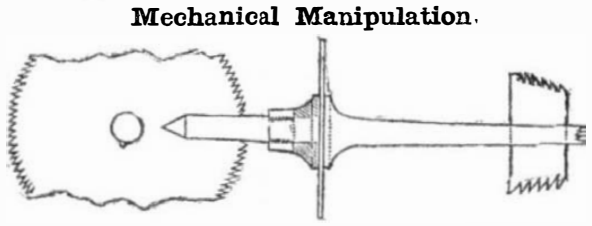
Patent Pocket Lock.

We have been shown a neat and beautiful portable Lock, the invention of very ingenious mechanics of this city, Fowler & White. Its purposes of utility are self evident, as it can be carried in the pocket of any person who is travelling and be a perfect security in rooms without locks, as it can be fastened to the door and door frame in a few minutes. It is altogether an excellent and useful invention and we have no doubt but it will meet with a most extensive sale as soon as its qualities are known. Application is made for a patent, and we shall be able to present an engraving of it in a short time.

New Signal Light.

Mr. D. B. Guion of Cincinnatti has invented a new signal light for steamboats, which it is thought, will ultimately supersede all others. It is triangular, presenting the point of an acute angle in front, on each side of which is a colored light, so that a boat approaching in a straight line, will show both lights, and a change of course will be indicated by the disappearance of one light and the increase of the other, as its presents a larger face Mr. G. has received great encouragement from river men, who are sanguine in believing this Invention will prove invaluable in escaping dangerous collisions, which, from the uncertainity of the common light, it is impossible sometimes to avoid.

Mechanical Manipulation.

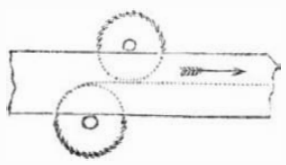


Spindles for Circular Saws of medium Size.

For sawing ordinary works in wood, the above arrangements are mostly insufficent; as the saw should be further removed from the pulley or lathe head, to enable pieces of moderate width to be cut off, and also larger in diameter to serve for thicker pieces. The saw is then mounted on a spindle such as that shown in the sketch; the saw plate fits upon the cylindrical neck of the spindle. and is grasped between the flat surfaces of the flange and loose collar, (which latter is shaded) and pressed forward by a nut. A steady pin, or a small wire (represented black) is inserted obliquely in the spindle, and passes through a corresponding notch in the saw. The steady pin constrains the saw always to travel with the spindle, without depending on the grasp of the nut alone.

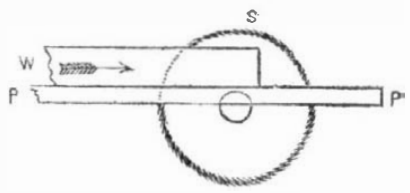
The saw spindle is frequently squared at one end, and half a centre at the other, to admit of being supported in the lathe at its extremities, by the square hole chuck and popit head respectively, so as to revolve together with the mandrel. When the saw spindle is used independently of the lathe, it has a centre at each end for the centre screws then employed, and also a pulley to receive the band from the foot-wheel or other motive apparatus.

Hazenfratz, Emy, and other French writers on carpentry, have described the mode of cutting thick logs of timber, as here shown, by means of two comparatively small saws, each extending alone to the centre of the log. The



saws are in the same plane, but one above and the other below the log, and a little removed to avoid the contact of their teeth; but from the reasons above stated, and some others, the plan is but rarely if at all adopted.

Under most circumstances, it is best to employ that part of the saw which is nearest to the centre, and it may be stated generally that the diameter of the saw S, should be about



four times the average thickness of the wood W, and that the flange on the spindle should be as nearly as practicable flush with the saw table or platform P P.

In addition to various other particulars in the table on circular saws, an attempt has been made to tabulate the velocities proper for different saws, and the amount of power severally required, but these numbers must be received with some latitude, because they are very much influenced by accidental circumstances. Amongst these are the particular quality of the wood or other material, as to its hardness and grain, its greater or less freedom from moisture, or from gummy and resinous matters, also its magnitude, and the degree of smoothness desired in the surfaces left by the saw; all those circumstances demand certain variations in the proportions and conditions of the saws used. A few words will be therefore added respecting each of these conditions.

The *harder* the wood, the smaller and more upright should be the teeth, and the less the velocity of the saw; hence it follows that the rate of sawing is proportionally slow.

In cutting *with* the grain, or lengthways through the fibres, the teeth should be coarse and inclined, and the speed moderate, so as rather to cut the removed wood into shreds than to grind it into powder; as the more minute the saw-dust, the greater the power that must be expended in its production

In cutting *across* the grain, the teeth should be finer and more upright, and the velocity should be greater than in the last case; so that each fibre of the wood may be cut by the passage of some few of the consecutive teeth, rather than be torn asunder by one tooth only.

Wet wood is softer than *dry*, and therefore is more easily cut, but the saw is required to be more keen and more coarsely set; the waste is consequently greater.

For *gummy* or *resinous* materials, and for *ivory*, the saw teeth are required to be very keen, and the velocity comparatively slow, to avoid the dust becoming softened and rendered adhesive, as it will then stick to the blade. This disposition is lessened by by lubricating the saw either with a tallow candle, solid tallow, lard, or oil, applied with a brush.

When the object is to get through as much work as possible, the rapidity with which the wood is then advanced, will prevent regularity in its progress, and consequently likewise in the saw marks on the wood. The saw is then liable to be overloaded; if so, it vibrates rapidly sideways with great noise, requires greater force, but nevertheless proceeds through the wood slowly and leaves it full of coarse ripple marks.

Smooth sawing requires the work to be regularly advanced towards the saw, and the latter must be keen and very uniformly set; as one tooth, projecting beyond the general line, is sufficient to score or to scratch the work. It is a proof that the saw was in most excellent order and well supplied, when the part cut in every revolution of the saw, cannot be detected by the corresponding marks left on the wood or other material.

Corn Stalk Grinder.

Mr. E. Potts, of Fredyffrin, Pa., has invented a machine for cutting fodder which is said to be superior to any yet made. The cutting knives are fixed on the crushing cylinder and the machine can be attached to a common horse power of a threshing machine. It is a very simple and beautiful invention, not liable to get out of repair, and must command the attention of our farmers.

Spark and Dust Catcher.

An invention for the purpose of entirely preventing sparks or dust from flying from locomotives, is about to be completed by Mr. Phleger, of Wilmington, Del.. His invention if successful, will add greatly to the comforts of railroad travelling.

Clay Bottles.

A patent has been taken out by Edwin H. & C. S. Merrill, of Akron, Ohio, by employing a mandril of the form of the interior article to be made and having spiral channels cut in its surface also for forming bottles of clay by adding bottoms to them after the other parts are made.

Improvements in Daguerreotype Plates.

Mr. Frederick Layenheim, a Frenchman, has discovered a new method for making the coloring adhere to the plates, by covering the parts to be colored before they get the color with an impalpable powder of gum damarum, by placing the plate in a close vessel, face up, with those parts covered which are not to be colored, and then filling the atmosphere in said vessel with the powder of the gum named, and allowing a sufficient quantity to settle for the purpose intended. After the color is laid on the plate, it is submitted to a sufficient degree of heat to fuse the gum, which causes the gum to adhere and cannot be easily rubbed off with handling.

A patent has been taken out in England for an apparatus to be attached to boots and shoes —for the purpose of protecting the wearer from splashes of mud in walking!

Sewing Machine.

A very beautiful sewing machine which was patented last y ear is the invention of Elias Howe, Cambridge, Mass.

In sewing a seam two threads are employed, one of which threads is carried through the cloth by means of a curved needle, the pointed end of which is to pass through said cloth; the needle used has the eye that is to receive the thread within a small distance, say an eighth of an inch, of its inner or pointed end. The other or outer end of the needle is held by an arm that vibrates on a pivot or joint pin, and the curvature of the needle is such as to correspond with the length of the arm as its radius. When the thread is carried through the cloth, which may be done to the distance of about three-fourths of an inch, the thread will be stretched above the curved needle, something in the manner of a bow string, leaving a small open space between the two. A small shuttle carrying a bobbin filled with silk or thread, is then made to pass entirely through this open space, between the needle and the thread which it carries; and when the shuttle is returned, which is done by means of a picker staff or shuttle driver, the thread which was carried in by the needle is surrounded by that received from the shuttle; and as the needle is drawn out it forces that which was received from the shuttle into the body of the cloth, and, as this operation is repeated, a seam is formed which has on each side of the cloth the same appearance as that given by stitching; with this peculiarity, that the thread shown on one side of the cloth is exclusively that which was given out by the needle, and the thread on the other side is that exclusively given out by the shuttle. It will, therefore be seen that a stitch is made at every back and forth movement of the shuttle. The two thicknesses of cloth that are to be sewed are held upon pointed wires, which project outward from a metallic plate, like the teeth of a comb, but at a considerable distance from each other, about three-fourths of an inch; these pointed wires sustaining the cloth and answering the purposes of ordinary basting. The metallic plate from which these wires project has numerous holes through it, which answer the purpose of rack teeth in enabling the plate to be moved forward, by means of a pinion, as the stitches are taken.—The distance to which said plate is moved, and consequently the length of the stitches, may be regulated at pleasure.

Several patents have heretofore been obtained for sewing machines, but none of them operate in a similar manner, nor produce a similar result. The inventor of it has struck out a track of his own, and it would be difficult, by any means heretofore known, to sew as fast or as well as can be done by this machine.

New Motive Power.

Mr. Fox Talbot has taken out a patent for a new, or rather a remodification of a plan, for generating and applying motive power.—This he has effected by exploding gun cotton alternately on each side of the piston. At the bottom of the cylinder on each side, are two circular holes, in which the explosive material is supplied by a tubular slide. Passing through the cylinder is a platina wire, for the purpose of being excited by the galvanic battery, and thus explode the cotton. In preparing the cylinder, the tubular slide is first filled with gun cotton, in each division thereof so as to allow it to be exposed to the immediate action of heat passing through the cylinder, by being brought into contact with the platina wire, taking care that one charge shall have been discharged before another is introduced—and thus causing, by repeated explosions, a motive power for giving motion to machinery, &c.; such power being regulated entirely by the quantity of explosive material employed.

Cider Mill and Press.

Mr. John Wilson, of Erie Co. Pa., has invented a travelling Cider Mill and Press, so constructed that it can be moved from one farm to another, by two pair of horses. Last fall he made two hundred and thirty seven barrels of cider, sometimes making as many as thirteen a day. The mill and press can be had for about twenty dollars.

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NEW YORK, AUGUST 28, 1847.

Poor Inventors.

There appears to be something in the pursuit of mechanical invention which has a reaching up after our divine title, "lords of the creation." It belongs to man above all creatures to take the inanimate things of earth, and make them move and act in every part but that of self ideality. It is truly a sublime sight to behold a machine performing nearly all the functions of a rational being, yet while such works are admired and confer a thousand blessings on the human family, how often has it been the fate of the poor inventor not only to be ridiculed for enthusiasm in his darling pursuit in creative mechanism, but to pine away and die for want, after life, labor and all his worldly possessions were spent in perfecting some beautiful machine, some child of his mind. And often, alas too often, have others feasted and fattened and grown rich on the fruit of his skill and toil, while he who went down into the grave in despair, has not had a stone to mark out his last resting place, or a friend to tell where the frame which was the cylinder of his mighty mind, lay mouldering amid the clods of the valley. It is a sad tale, that of Poussin the French mechanic, who perished in the dungeon, the maniac of persecution. There is a sublime sadness in the fate of our own Fitch—how he struggled and how he died. How romantic his dying request, "bury me by the waters of the river where my heart has long been with my steamboat." And Evans, how melancholy was his reward. We could instance hundreds of cases like those of Poussin, Fitch and Evans, but these are enough for our purpose. There are plenty of Fitches and Evanses yet, plenty who have grand and noble ideas, and have become poor in the pursuit of their favorite mechanical study. Many have pitied the poor inventor's fate, and many too have suggested ways and means to elevate and provide for such a worthy class of men—such benefactors of the human family, but as yet no scheme has ever been advanced that has been of the least advantage to the poor inventor, while many a scheme with plausible pretences for his benefit have been got up for no other object but to deceive him, for the purpose of draining away some of the remains of his hard earned money. This has been done in many instances by specious pretences, working upon the honest faith of poor inventors, (for they are generally distinguished for simplicity and honesty,) who after they had contributed much of their earnings to what they supposed a noble object have found themselves duped and deceived by professed friends.

These remarks have been elicited by an article in the London Mechanics' Magazine, calling upon those who have become rich by the labors of machinery, to contribute something for the benefit of many poor men to whose genius they were indebted for their wealth. We confess, that unless some men who are able, like a Lawrence, make a free and munificent gift for the establishment of an Inventor's Institute, we cannot look for success in such a scheme, and such a gift must be without any partisan interest, it must be totally unselfish. From conversations which we have had with many good mechanics, there appears to be a well grounded jealousy of schemes for the benefit of inventors, and no wonder, it is best for them to be cautious. It is not, however, impossible for such a scheme to be successful, if the right kind of men would but lead the way, and we shall not fail often to agitate the subject, in the hope of inducing those who are able, to lend a helping hand to poor inventors.

Tears do not dwell long upon the cheek of youth. Rain drops easily from the bud, rests on the blossom of the maturer flower, and breaks down that which hath lived its day.

Mental Toil and Mental Science.

It is related of the famous James Watt, that he was not only a man of the most euridite mechanical knowledge, but that he was likewise minutely acquainted with chemistry, music, and could hold converse in a number of languages. This great mechanic is said to have amassed the great amount of knowledge by a peculiar manner of systematizing every study. This very faculty of system is an attribute of genius, but it is also a habit which can in a great measure be acquired. To the systematising of study we would desire to call the attention of all who have a faculty of investigation—of tracing cause and effect. Begin at first principles, lay out the path before you, mark it well by stakes, and square it well by rule, and then march with a bold heart to seize the glittering prize. Never think to fly to the end of your journey; man was not made with wings, he is to eat his bread with the sweat of his face. We cannot acquire any information of a solid character without labor and much labor too, but we may throw away our labor vainly, like a man travelling on a broad road and cutting it at right angles. We must endeavor to make no leeway, so that the progress we make in one study may not be lost in another. For example; every man knows who has been engaged in a mechanical study to discover some desired improvement, and has expended many a weary hour both by day and night in vain, that perhaps like a flash of lightning, when not thinking of the subject at all, the happy thought, the joyful discovery for which he long had toiled in vain, starts up before the mind like a lovely picture. What a moment of bliss! The reward of toil indeed did not come immediately when the labor was completed, but without the labor there would not have been the reward and the reward was all the sweeter when it did come; like money lost and found again, more joy is experienced than if it never had been lost. We therefore say, toil on, brother men—brother craftsmen, but try and toil not in vain. Have a system. There are many divine thoughts that flash across the mind and are lost forever, but by having a system of study, these inspirations will not be lost. Every mechanic should carry a small slate in his pocket, on which he should enter his mental accounts, and post up the same and enter them on his ledger. There are many men who for want of system—not knowing the theory of mental science—have lost, lost forever, much that might have been useful to themselves and others. Let every man have a system, let him arrange his practice into a science, and we shall soon see the workshop occupy the place of the Collegiate Hall.

Massachusetts Charitable Mechanics Association.

The Fifth Annual Exhibition for the encouragement of Manufactures and the Mechanic Arts, is to be opened in Faneuil Hall, Boston, in September next. There is every indication that it will be an occasion of great interest to the industrial portion of the community; one that will ably sustain the high reputation hitherto conceded to the mechanics of the old Bay State. Exhibitions such as these concentrate much of the mechanical talent of the Union, and present to its sons and daughters undeniable proof of the celerity with which our countrymen grasp the higher order of science, and give themselves no peace till they have mastered its greatest difficulties.

The Half Ounce Letter.

An avoirdupois ounce is 218 3-4 grains.—Wafers 1 grain. Sealing wax, usual quantity, 5 grains. A sheet of foolscap weighs 172 grains; letter paper, 135. Small envelopes, 42 grains, large 52. You can send a letter 300 miles for five cents, containing, viz. the sheet of letter paper with three bank notes, sealed with wax; or the letter with three bank notes in an envelope. Half a sheet of letter paper, with a half eagle enclosed under wax, (a dangerous experiment.) A sheet with a dime and a half enclosed secured by wafers. A sheet of foolscap in an envelope, sealed with a wafer. One and a half sheets of letter paper, secured by wax or wafer. These calculations are based upon the ordinary letter paper now in use. By using very thin paper, a greater number of sheets go to the half ounce.

MECHANICAL MOVEMENTS.

Vibrating Water Trough.

This cut represents a water trough, such as was seen and described by Bruce as having been used by the Arabs for irrigation in Upper Egypt, also answering the purpose of grinding corn, by having a shaft on the axis, which was crossed by two swinging bars operating by stone rollers in a horizontal trough. The trough is divided into equal parts (one division out of which the water is running, is not seen) and is supported on an axis by a frame beneath. The fall of water filling one side of the division, the trough is vibrated on its axis and delivers its water a little above the bottom of the box which is now seen filling, and which has a light valve leather opening. When one side delivers its water, the other side is brought under the spout and is filled with water to that gravity which gives it the downward momentum. The Arabs used to hand water from the Nile with buckets from one to another, to the top of the bank, and pour it into a canal and thus it found its way after going out of the trough, through innumerable small channels to refresh the thirsty ground.

Face Wheel.

There are several methods used for the movement of wheels by horizontal and parallel motion, among which are the shaft, pendulum, &c. There can be no doubt but that the old clocks were very rude machines, although the famous clock of Strasburg stands its own with the best of modern days. The face wheel here has ratchet teeth which are moved by the alternate motion of the shaft to the right. The swinging motion is justly balanced with ease by the lever joints of the crank head. The pallets now in use are very simple and much better than the old forms, but still the changes of motion are here displayed in as clear a manner as by the clutch pallet.

Brooklyn Heights.

The Heights of Brooklyn are celebrated no less for their revolutionary anecdote than they are for picturesque grandeur. Afar is to be seen the shores of Jersey, the Manhattan Bay, the Empire City, the islands—ocean pearls—and the fleets of all nations floating like swans on the bosom of the deep. There is no finer view in the world than this. Brooklyn is rapidly becoming an immense city, and contains a large number of manufacturing establishments—iron foundries, machine shops, glass works, white lead factories, cordage factories, steam flour mills, ship yards, U. S. navy yard, &c. It has increased rapidly within the past few years, and is now in the number of her inhabitants, the second city in the State.

Gold Mining.

A handsome business is doing in Vancluse mint, Orange county, V. the most extensive gold mine now in operation in the United States, the capital of which is to be raised $500,000, divided into 10,000 shares of $50 each. Large subscriptions have been made in Washington, and among them extensive ones for English houses.

Canton to Boston.

The running time and the expense of an overland journey from Canton in China to Boston in America, are about 15,000 miles and $1500. In this route it is all by *steam*, except from Suez to Cairo, over the desert, which occupies 23 hours, the expense $45.

Cement in Masonry.

An experiment illustrating the powers of cement, we find a notice of in an English publication. The experiment made was upon two blocks of stone each 39 inches long, 29 inches broad, and 26 inches deep, weighing 2662 lbs. The beds or contact surfaces of the stones at the joints were roughed over by picking down the surface, they were then united with some of the best Roman cement. Six weeks after, the experiment was continued by suspending the upper stone, and loading the under one with weights, to the enormous extent of 36,544 lbs, without breaking the joint. This was then split by means of a mallet and chisel, and it was found that with the exception of the outer part of the cement, which had been exposed to the air and was extremely hard, the whole interior of the cement joint was softish and neither resisted the action of the thumb nail nor of a sixpenny piece edge, which scored the surface to the depth of nearly a sixteenth of an inch.

Humble Life.

There is a happiness in humble life; who can doubt it. The man who owns but a few acres of land, and raises an abundance to supply the necessary wants of his family, can ask no more. If he is satisfied with his condition—and there are thousands who are—no man is more happy. No political move disturbs his repose; no speculative mania chases the calm serenity from his mind; no schisms in the church throw shadows beneath his golden sky. His family is the world to him; his little lot is all his care, Who sighs not for such a life of calmness and serenity. Amid the cares and anxieties of business who would not exchange his prospects and his honors for the repose of him who is contented and happy on his spot of ground, far from the noise and bustle, princely luxury and squalid poverty of city life? If there is a situation congenial to the true spirit of man and the growth of virtue, it is amid the rejoicing of nature—in the calm retirement of rural life.

The Steam Engine.

Stand on the deck of a steamboat—rush through space propelled by steam or atmospheric pressure—gaze on the mysterious electric printing telegraph—or witness the beautiful evolutions of a screw vessel—have a thousand companions with you, and how many will you find that can inform you the variety of movements that compose the engine you are propelled by? Atmospheric pressure, electricity, and the operation of the screw, are all inexplicable to the majority.

Boston Enterprise.

A company of Boston capitalists, of which Robert Rantoul is director, own a large and valuable track of land upon the St. Croix Falls, where they have erected saw mills and are turning out immense quantities of lumber, which they sell at St. Louis at great profits. The St. Croix Falls, a flourishing settlement of some hundreds of inhabitants. is in the Minesota territory, and will probably be the capital when the territory is organized under the laws of the United States.

By a decree of the Austrian Government any *employe* of a railway causing an accident by negligence, is liable, if serious, to 10 or 20 years imprisonment, and if death be caused death is the punishment.

To New Subscribers.

Those subscribing to the Scientific American will be furnished, if desired, with all the back numbers of the present volume. Bound together at the end of the year, they will form a handsome and valuable work.

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The Inventor of Pattern Turning.

The art of turning cylinders, balls, and anything of uniform circular form, in the common lathe, has long been practised by ordinary turners, and is famliiar to every body. But the idea of turning in a lathe articles deviating from circular form appears at first blush, preposterous and absurd. And yet precisely such a machine has been invented for turning forms of various irregular shapes, such as gun barrels and gun stocks, spokes of wheels and shoe lasts, wig blocks, tackle blocks, and last, not least in importance, busts of the human head! Machines for all these purposes have been invented by Mr. Thomas Blanchard, and one of the latter description is now in full and successful operation in Boston.

The process of casting busts in a mould, after a model, has long been practised. But the idea of turning out busts from beautiful marble, by machinery and steam power, in any quantities and of various sizes, and with the most perfect accuracy after a single model, is truly astonishing, and would have never been dreamed of but by a creative genius like that of Blanchard. Imagine, a steam engine, in rapid motion, whirling round, and turning out the human head and face divine, neck, breast and shoulders, of perfect proportion and accuracy to nature! Imagine such an eccentric machine, and you will have some idea of the wonderful stretch of invention which conceived and completed such a faculty. If any person will take the trouble, he can see a bust of Daniel Webster rapidly revolving in one end of a lathe, and at the other he will see *fac simile* heads of the great expounder, of any desired sizes, turned out from marble, by machinery.

When one of these heads was presented to Mr. Webster, and he was informed by what process it was produced, he exclaimed, in astonishment, that it was the "wonderful invention of the age." Well he might; for who can imagine such a curious art? Description is out of the question. He who doubts, or would understand it, must see for himself.

Curious, busts and Cameos may be turned after one and the same model, into imitations of any sizes, from a colossal bust, to a miniature face suited for a lady's brooch.

Thos. Blanchard was born in Sutton, Massachusatts, 1788. He has been the originator of many useful things, besides the lathe, for turning multiform objects. His inventive genius was early developed. At the age of thirteen he invented a machine for paring apples, which operated well, and was much used in the village where he then lived.

His next invention was that of a machine for making tacks. At the age of fourteen he was employed by his elder brother, with other boys, to manufacture tacks. The mode of operation was,—after cutting thin plates of iron into minute particles, or points, of suitable size for tacks, to take up each one seperately between the fingers, and hold it in a vice, till a blow was given by a hammer, for making a flat head. This tedious process for making tacks was the only one then known. After working all day long, it required much time to ascertain, by actual counting, how many tacks was made by each operative, to know how much he had earned. After a day's work, it was rather too much to go into this computation, and Blanchard soon invented a machine to ascertain the number with exactness. This consisted simply of a little wheel turning one cog every time the hammer finished a tack, while a small bell announced each thousand completed.

He then conceived the plan for making tacks, in any quantities, by machinery. After preserving for five or six years, about 1812 he produced a machine that would make 500 tacks in a minute. He had only to place the iron in a hopper, and tacks of more perfect shape and finish of head and point were produced, then had ever before been made by manual labor, Securing a patent he sold the right for $5000.

Soon after he turned his attention to making gun-barrels. It was at that time an irksome process of manual labor, to produce a common gun barrel. The art of turning such an instrument was unknown. Mr. Blanchard set his wits to work to make a power machine to turn out a whole barrel, from muzzle to breech. It was an easy process to turn the muzzle end, but at the lower part, the machinery, by a self-acting change, was made to accomodate itself adroitly, to the oval and octagonal parts of the breech. All this was accomplished with great facility by steam power. Gun barrels were thus made, not only with rapidtiy, but of superior finish, uniformity and value to those made by manual labor, and he secured a patent for the invention. This remarkable improvement attracting the attention of the government, and he was engaged to put up one of these machines at the United States arsenal at Springfield, Massachusetts, and afterwards at Harper's Ferry, Virginia.

When his apparatus was first started at Springfield, the workmen came round to see the experiment. On its successful operation, one of the workmen remarked to another, "this man has upset our art." One of the gun-stock makers said that, "he could not upset him, for the stranger could not turn a gun-stock." Blanchard replied that "he would try."

Nothing daunted, he again set his wits at work to invent a machine for turning so irregular form as a gun-stock! After trying various experiments, he finally succeeded in making a lathe to turn out gun-stocks with accuracy and facility, by steam power! He secured a patent for the invention, which is now in successful operation at Springfield and Harpers Ferry, and has literally "upset the art" of making gun-stocks by the slow process of manual labor.

This curious machine was at once applied to making shoe lasts, hat blocks, tackle blocks and all similar utensils; and while it put an end to the tedious process of making such articles by hand labor, it produced far more perfect specimens.

In 1825, Mr. Blanchard applied his mind to locomotive power, and constructed a steam carriage for common roads. He exhibited a model in Washington, in shape of a horse and carriage, which elicited high commendations from Mr. Calhoun, then Vice President of the United States, and other distinguished men. It was applicable to railroads, would go forward and backward, and turn corners. He secured a patent as usual, and as early as 1826 submitted his plans for a railroad to the Legislature of Massachusetts and obtained the favorable report of a committee of the House. His ideas, however, being then generally deemed visionary his schemes proved abortive.

He next submitted his plans to the Legislature of New York, and applied for a charter for a railroad from Albany to Schenectady.—But Gov. Clinton was too much engrossed by the Erie Canal to pay any attention to such a scheme as a railroad.

About the same time he invented an improvement in steam boat machinery, to enable boats of small draft to ascend the rapids of rivers, and his plan is now in general use, for ascending rivers of narrow, shallow and rapid channels. His boat was the first to ascend the Connecticut, from Hartford to Bellows Falls, to the surprise of those on that river river who had never seen a steamboat.

Such are among the valuable inventions of Mr. Blanchard, a farmer's son, whose means of education were only the common schools in a secluded part of the country, at the close of the last century. Like all other inventors and innovators, he had to contend against ignorance and prejudice. At the very moment when he was on the eve of producing most curious and useful inventions, he was ridiculed by up-starts as a crack-brained enthusiast. More fortunate, however, than most other inventors, his perseverance has been crowned with success, and he still lives to enjoy the rich fruits of his genius and labors.

Mexican Antiquities.

Mr. Uhde, at Handshuheim, in Baden, Germany, made the Cabinet a beautiful present of a large collection of Mexican antiquities containing eighteen pieces; among these are found an entire suit, showing the process of manufacturing the arrow-heads of obsidian in the remote ages of Mexico. This is the more interesting to the Scandinavians, as it perfectly coincides with the manner which we find established in the north, though with the natural difference in the choice of the stone, the Scandinavians having employed the flint, which is found in great abundance in the Northern regions, while the Mexicans made use of the obsidian. From Mr. Uhde the Museum, moreover, received six pieces of obsidian, strata of which had been cleaved off. They are of different dimensions, from five inches to one inch and a half long; fourteen various planes of obsidian, likewise differing in length; an arrow-head of the same stone, the shaping of which had been attempted; two small javelin points, in the form of a heart, to be fastened to the shaft, and two others with a top to fix in the shaft. They were accompanied by several other antiquities, all of terra-cotta, such as: Two semicircular tops with impressed ornaments, two inches in diameter, a small circular basis of pedestal only half an inch in height, with ornaments on the border in the form of S; a knob, round of an unknown use, one and three quarters of an inch diameter with ornaments of the upper part, and a haut-relief three feet high, representing a sitting figure, who is placing both its feet through two square apertures; a fragment of a figure, with head-gear and ear-rings, carrying a child in her arms; thirty-five different small heads, of a red and grey colored lime; the greater part of which are ornamented with a curious head-gear, and nine, moreover, with ear-rings; four only are without head dress; the most part of them appear to have been arranged for suspension; two fragments of the animal's heads, and the figure of a couching animal, resembling a sphinx.

Blasting by Potassium.

As under many circumstances blasting by voltaic electricity would be found inconvenient, from the great length of wire, its liability to corrode under any lengthened operations, and other circumstances, an ingenious suggestion has been made of taking advantage of the property of potassium to decompose water and evolve potassurrated hydrogen, which takes fire spontaneously when in contact with the atmosphere. To effect this, a tin case must be provided, closed at both ends, except a small hole in the centre of one. Fill this with gun-cotton, or gunpowder, if the latter, fasten a piece of pasteboard pierced with holes, over the orifice. Make a small case of pasteboard, open at one end, very shallow, and wide enough to cover the hole in the largest cylinder or case; in this, put a piece of potiassium, invert it over the hole in the larger case. and fasten it on. The case thus prepared, with weights attached, is carried down by a diver, and placed in a proper situation; in half-an-hour, the water will soak through the pasteboard top, come in contact with the potassium, immediately inflame, and cause the explosion of the case.

Asking for Work.

To me—speaking from my heart, and recording my deliberate opinion on a material, that, frail as it is, will long outlast my own fabric—there is something deeply affecting in the spectacle of a young man, in the prime of life and vigor, offering himself a voluntary slave in the labor market, without a purchaser—eagerly proffering to barter the free use of his body, the day long exertion of his strength, the wear and tear of flesh and blood, bone and muscle, for the common necessaries of life—earnestly craving for bread on the penal conditions prescribed by his Creator, and in vain—in vain! Well for those who enjoy each blessing of earth that there are volunteers to work out the curse! Well for the drones of the social hive that there are bees of so industrious a turn willing for an infinitesmal share of the honey to undertake the labor of its fabrication.—*Thomas Hood.*

Nature and the Mind.

Nature has scattered around us, on every side and for every sense, an inexhaustible profusion of beauty and sweetness, if we will but perceive it. The pleasures we derive from musical sounds, and the forms of trees are surely not given us in vain, and if we are constantly alive to these, we can never be in want of subjects of agreeable contemplation, and must be habitually cheerful

The deepest wretchedness often results from a perpetual continuation of petty trials.

Locomotive Improvement.

A patent has been taken out in the United States and England by Mr. Mathew Leahy, for improvements which are described as follows:

In the enlargement of the firebox, by placing it between the driving and the running wheels, and extending it, literally, to any convenient distance outside the rails, whereby a greatcr amount of heating surface is obtained, and the power of the engine increased. In order to counteract any injurious effect which the overhanging weight of the firebox might have on the engine, he surrounds it (the engine) with an "outside frame," in which the bearings of the driving and running wheels are supported.

Also to increase the heating surface of the firebox it is arched out over the hinder running wheels, and is intersected by partitions filled with water; and a "bogie" is attached by a centre pin or pivot to the locomotive, so constructed and arranged as to turn with facility any curve, aud bear a portion of the weight of the engine. The "bogie" is constructed as follows:—Underneath the platform is a circular metallic ring, slightly inclined inwardly on its upper surface, and having radial arms to connect it with the jacket which encircles the centre-pin or pivot. Over this circular metalic ring is another, which serves the purpose of a coupling and is inclined on its under surface so as to correspond with the former. In the lower circular metalic ring there are conical rollers, supported in suitable bearings. The patentee states, that by this arrangement and construction, the strain upon the centre-pin and friction of the parts will be diminished.

To enable the engineer to ascertain when the bearings af the driving, or other parts of the engine, become heated, he proposes to bore a small chamber in the metal, close to each bearing, which is to be filled with ether, or such other body as will, by its volatilization or change of form, indicate the increase of temperature. A pipe is to be attached to this chamber, and brought into a glass globe, placed near the driver, so that he may easily discover any dangerous increase of temperature. This bearing is proposed to be cooled by means of a pipe leading from the water reservoir to it, through which water is pumped by the engine when required.

The Constancy of Man's Love.

The female sex, bless their kind hearts, try to make us believe that they alone have all the enduring constancy of true devotion. We like sometimes to stand up for our masculine faith by quoting such anecdotes as the following, to see who can doubt the infallibility of the Science of True Love. The Glasgow Examiner, a Scottish exchange, relates that a Mr. Archibald Campbell, of Delaware County, in this State, was married there a short time since, under singular circumstances. The united ages of the venerable couple were upward of 140. The young gudeman was in his 71st year, the young gudewife three or four years older, both being natives of Scotland,—On leaving that country about forty years ago, he wanted his then blooming love to join hands with him but a refractory father compelled her to remain at home, and she got married to another. The then young man followed the same plan in the new world, but both becoming single again at the same time, he renewed his suit by letters, being then about twenty years absent, but she again refused; and being again disappointed, he married a second wife, with whom he lived nearly twenty years. On becoming again a widower, he seemed to be determined not to be deprived a third time of the object of his early affections, but crossed the Atlantic, struggled through Ruglen and o'er bonny Cathkin Braes, arrived at Carmunnock, on the 1st of July, was cried three times like a good Puritan on Sunday, the 4th, and celebrated his *Independence* by marriage on on the 5th, (Monday,) and thus captured the betrothed of forty years.

In some of the railway bills passed at the last session of the British Parliament power was given to enable the companies to act as water companies for the supply of water by pipes along the railways, to the towns on and at their terminus.

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TO CORRESPONDENTS.

W. D. N. MacN. of S. C."—We believe that no patent has been taken out for the Claussen Loom in the United States. Patents have been taken out in France and England. Applications for the licenses can be made to Messrs. T. Burnell & Co., No. 1 Winchester street, London. We could not inform you of the price of Mr. Yeaman's Wheat Fan, but if you communicate with him you will no doubt gain the desired information. We should be happy to do so for you but you will be able to get an answer sooner from Elizabethtown, Ky. than we could send the information.

" E. F. B. of L. I."—It was not possible for us to visit your Rope Walk. We hope to have the happiness of doing so soon.

" J. F. of Pa."—Windmills are used by some farmers to raise water from a river or lake. They are of great importance in flat countries. We have been informed that a Mr. Pierce, in Clark Co., Ohio, has one Whether they have proved advantageous or not we cannot tell,—they can at least be made of good service.

" W. F. D. of Mass."—We again inform you that we know of no machine like yours, for cutting and punching sheets of copper.

" J. G. of Va."—Your needle may from some influence have lost its properties, or its correct balance. Examine it closely. The only remedy is to send it to the philosophical instrument maker.

" A. T. of Watertown, Mass "—Your bundle of Scientific Americans was forwarded as you ordered.

" Mr. ——, Boscawen, N. H."—We received your letter duly, but you omitted to place any signature at the conclusion of it. If you will give us what is so important for us to know (your name,) your questions shall be answered and order filled.

" H. W. of Mass."—We have not heard of any engine working on the compressed air system in this city. and we are positive there is none.

" D. A. S. of Mass."—We have communicated on the subject of your seed plough by letter.

" J. B. of Mass."—The desired information regarding the Hook and Eye machine will be sent by mail.

" W. H. H. of N. Y "—Your documents were sent up last week.

" Lieut. N., Curacao."—Your letters and draft came to hand this week. We shall send the packages through Messrs. Foulke & Sons, in two or three weeks, providing the draft is honored.

To Inventors.—A gentleman from Alabama, wishes to know what would be the cost of the best submerged water wheel, one that would drive a pair of burr stones, bolters, &c. to be delivered on board a vessel at this port.

Chambers' Miscellany.

Bedford & Co. No 2 Astor House, have commenced the republication in numbers of one of Chambers' celebrated works, entitled his Miscellany, each number of which is complete in itself, or they may be bound together, forming a splendid volume. The first number just out, is full of interesting information and well illustrated. Price 25 cents.

Columbian Magazine.

The September number of this popular periodical has been laid upon our table, and as usual, is overflowing with interesting and useful matter. We consider the Columbian as inferior to none of the popular periodicals of the day and we cheerfully recommend it to the patronage of the literary public. The September number has three splendid engravings and an excellent piece of music. Ormsby & Hackett, Publishers, 116 Fulton street.

A Splendid Map.

A map is about to be published of Philadelphia and its districts and suburbs for ten miles around. Every street, alley, road and by way, is to be accurately put down, and the names of the owners of farms and country residencess are to be inserted. It is called " Sidney's may of ten miles round."

A large meeting was held at Cincinnati on Tuesday evening week, to take into consideration the proposed railroad connection between that city and St. Louis.

Mechanics Mutual Protection.

A number of members of the Annual Convention have been suggesting to us the propriety of an extra session. The G. Protector, Secretary and Treasurer can do so. There seems to be a necessity for such an assembly if it could be held without too much expense. Our Union is now spreadiog abroad apace and a sacred and mutual spirit of good will and a perfect confidence must be more and more cultivated. Without a most perfect organization and a mutual understanding, we cannot do so much good. With confidence, truth, honor, and a brotherly union, an influence mighty for our mechanics will be the result. We think that it would be a good plan for Protections nearly connected together to meet and hold conversations—talk over matters and get intimately acquainted. Let there be a rivalry in good.—Let there there be a rivalry in acquiring useful knowledge, and above all, let there be a rivalry in drawing closer the bonds of affection and unity among mechanics.

We will be able to give an account of the opening of Jersey City Protection next week. Also of the New York Mechanics' Literary Club.

Br. James S. Huyler, D. G. P. has returned from Bridgeport, Ct., with a glowing account of the first ground being broke in glorious old new England, by the Mechanics' Mutual Protection. No. 1, Bridgeport, Ct., was opened on the evening of the 20th. Eleven were initiated—first rate men, mechanics truly—and there is hope of grand returns from that quarter. The officers installed are, H. A. Sutton, S. P.; W. J. Remer, J. P.; A. C. Godfrey, R. S.; LeGrand Parritt, F. S.; O. B. Nichols, T.

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☞ THIS paper circulates in every State in the Union, and is seen principally by mechanics and manufacturers. Hence it may be considered the best medium of advertising, for those who import or manufacture machinery, mechanics tools, or such wares and materials as are generally used by those classes. The few advertisements in this paper are regarded with much more attention than those in closely printed dailies.

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Magnetical Experiments.

The natural magnet, or loadstone, is found in the earth, generally in iron mines, in a hard brittle state, and for the most part, more vigorous in proportion to the degree of hardness. Artificial magnets, which must be made of hard, or highly tempered steel, are now generally used in preference to the natural magnet; not only, as they may be procured with greater ease, but because they are far superior to the natural magnet in strength, communicate the magnetic virture powerfully, and may be varied in their form more easily In making artificial magnets, care should be taken to apply the north pole of the natural magnet or magnets to that extremity of the steel which is required to be made the south pole, and to apply the south pole of the magnet to the opposite extremity of the piece of steel.—Very powerful magnets may be formed by first constructing several weak magnets, and then joining them together to form a compound one.

The north or south poles of two magnets repel each other; but the north pole of one attracts the south pole of another. The attraction between the magnet and iron is mutual, or the iron attracts the magnet as much as the magnet attracts the iron; since if they be placed on pieces of wood, so as to float upon the surface of the water, it will be found that the iron advances towards the magnet as well as the magnet towards the iron; or, if the iron be kept steady, then the magnet will move towards it.

Magnetic attraction will not be destroyed by interposing obstacles between the magnet and the iron. If you lay a small needle on a piece of paper and put a magnet under the paper, the needle may be moved backwards and forwards; and with a piece of glass or board the effect will be the same. This property of the magnet has afforded the means of several amusing deceptions. A small figure of a man has been made to spell a person's name. The hand in which is a piece of iron, rested on a board, under which a person concealed from view, with a magnet, contrived to carry it from letter to letter, until the word was made up If the figure of a fish, with a small magnet concealed in its mouth, be thrown into the water, and a baited hook be suspended near it, the magnet and iron, by mutual attraction, will bring the fish to the bait.

If you lay a sheet of paper covered with iron filings, upon a table, with a small magnet among them, and then shake the table a little at the two ends of the poles, the particles of iron will form themselves into lines, a little sideways, which bend and then form complete arches, reaching from some point in the northern half of the magnet to some other point in the southern half. If you shake some iron filings through a gauze sieve upon a paper that covers a bar magnet, they will be arranged in beautiful curves.

Soft iron is attracted by the magnet more forcibly than steel, but it is not capable of preserving the magnetic property so long.—The gradual addition of weight to a magnet kept in its proper situation, increases the magnetic power, but heat weakens it, and great heat destroys it. Bars of iron that have stood long in a perpendicular situation, are generally found to be magnetical; this circumstance, together with the phenomena of the compass and the dipping needle, leaves no room to doubt but that the cause exists within the earth itself.

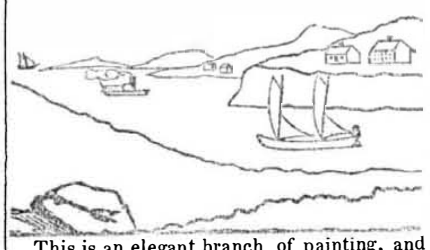
Modern Antiques.

There exist at Rome secret work-rooms of sculpture, where the works manufactured are broken arms, heads of the gods, feet of satyrs, and broken *torsi*—of nobody. By means of a liquid there used, a color of the finest antiquity is communicated to the marble. Scattered about the country are goatherds, who feed their flocks in the vicinity of ruins, and look out for foreigners. To these they speak incidentally of the treasures found by digging a few feet deep in such neighborhoods. To English, in particular, are the victims of such mystification, and freely yield their money to the shepherds, who are agents to the "General Artificial Ruin Association," and know well where to apply the pickaxe. They are careful, however, to spend much time and labor in fruitless search, before they come finally upon the treasure—for which the foreigner willingly pays. England is full of these antiquities of six months age. Nor do the amateur numismatants leave Rome with empty hands: for in that city are daily coined, without fear of the law, the money of Cæsar, Adrian, Titus, Heliogabalus, and all the Antonines—filed, pinched, and corroded, to give the appearance of age. Paris may be said to have hitherto, by comparison with London, escaped this epidemy for the youthful antiquities of bronze and marble, but she is devoured by the forgers of the Middle-Age antiques. It is notorious with what skill and impudence certain cabinet makers manufacture chairs, tables, and footstools of the fifteenth century and how readily they find dupes. A young antiquarian showed lately, with great pride, to an artist, a friend of his, a very fine article of Gothic furniture, which he had just bought at a great cost "It is very fine," said his friend, after examination, "and it will last you long, *for it is quite new.*"

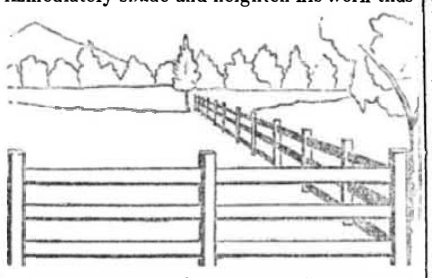
THE ART OF PAINTING.

(*Concluded from No* 48.)

CHIARO OSCURO, OR LIGHT AND SHADE PAINTING ON WALLS.



This is an elegant branch of painting, and can be accomplished with great facility. It consists in the representation of all the variety of landscape scenes, with only one color, and the various shades between that color and white. When black alone is used for the dark shade, the several graduated shades will appear of delicate colors, somewhat like delicately tinted ink drawings on paper. But the colors more generally employed are a mixture of black with red, or with chrome yellow: the former constitutes a dark plumb color with shades of purple; the latter a dark green with shades of green drab, or stone green.—Other colors are sometimes employed for variety's sake, where there are many rooms to be painted in the same house; such as burnt umber, Prussian blue and even chrome yellow, shaded or deepened with gamboge. But in most cases the green or purple is preferable. These colors are prepared, tempered and applied, as directed for painting in full colors; and the designs may, with few exceptions, be the same. In applying the ground colors, the same order is observed as in full colors. A tint of about the same depth of shade as sky blue, is applied to the upper walls, and the rising clouds are made with white. The color is changed a shade darker for the land and water of all the several distances. The ground of the fifth distance may be first painted and shaded; afterwards the water and the other distances in succession. An expert artist, however, will paint over the whole ground at once, and applying the shading and heightening of each distance, in season to blend the lights and shades before the ground color becomes set or solid. Four different shades or grades of color are commonly used, which are termed the dark shade, medium shade, light shade and ground color. The light shade is used for shading the fifth distance highlands: the dark shade for the first, and medium shade for the second distance.—The artist will commence at one corner of the room and work to the right, painting the whole space from the horizon lines to the dadoe line, to the distance of four to six feet, and immediately shade and heighten his work thus



far, forming mountains, shores, islands, &c., as far as the ground is put on, and then proceed with another section. Of course he must have his design matured and in his mind; and if there appears any break, or imperfect match between the sections, he has only to build a tree or bush over it. So in regard to any defect in the ground painting on any part of the walls, a ready remedy is always found; in trees, bushes or clouds. In representing houses, trees or vessels, on the fourth distance, no darker color than the light shade is applied; but the medium shade is used on the second and third distances. All trees, rocks, &c. are heightened with white. The tops of large trees, on the first distance, are commenced with dark shade, on the shade side, progressed with medium shade, and finished with white. We have seen an artist in this branch paint the entire walls of a parlor, with all the several distances, and a variety of fancy scenery, palaces, villages, mills, vessels, &c., and a beautiful set of shade trees on the foreground, and finish the same complete in less than five hours. And as we have before remarked, if there were a competent supply of artists who could accommodate the public with this kind of painting, it would nearly supersede the use of paper hangings.

To Prepare Bees-Wax.

To obtain wax, boil the combs in strong muslin bag, in a saucepan with water sufficient to keep the bag from burning, and whilst boiling, continue to press the bag with a wooden slice or spoon to extract the whole as you skim off the wax Drop the wax into cold water, where it will swim on the surface. The wax thus obtained will want refining, to effect which, place it in a clean saucepan and melt it over a slow fire. Then pour off the clean wax into proper vessels and let it cool.

Wax can be bleached by dissolving in alchohol and submitting it in that state to chlorine gas infused in some lime water mixed with the alchohol, and afterwards evaporated.

Camomile Destructive to Insects.

It is asserted in an article in the Irish Gardener's Magazine, that a decoction of the leaves of this plant will effectually destroy insects; and that it also adds much to the health of garden vegetables when growing in their vicinity. "No green house, or hot house," observes the writer, "should ever be without camomile, in a green or dried state. Either the stalks or leaves will answer." It is a singular fact, known only to a few, we believe, that when a plant observed to be failing, without perhaps, any obvious cause being apparent, it may be suddenly resuscitated, and brought again to its former vigor, simply by applying camomile near it.

Painter's Cholic.

This disease is caused by inhaling the fumes of the carbonate of lead, which are emitted from the oil and lead used in painting. It is a very dangerous and painful disorder. Painters who work in close rooms are more apt to take it than those who labor in the open air. To prevent this disease, painters should use in their common drink, a small portion of sulphuric acid, which, if taken moderately, will in a great measure, prevent attacks of the cholic and not injure the stomach in the least.

Cure for Cancer.

A Mr. Johnson says he has effectually cured himself of an obstinate cancer, by the free use of potash made from the ashes of red oak, boiled to the consistence of molasses, used as a poultice, covering the whole with a coat of tar. Two or three applications will remove all protuberances, after which it is only necessary to heal the wound with common salve

Recipe for making Yeast.

To two middling size potatoes add a pint of boiling water, add two table spoonsfull of brown sugar. One pint of hot water should be applied to every half pint of the compound Hot water is better in warm weather- The yeast being made without flour, will keep longer in hot weather, and it is said to be much better than any in previous use. Try it

Fine Flour and Whole Meal.

Prof Johnston, the celebrated Scotch agricultural chemist, has an interesting article in the last number of Blackwood, upon the comparative substance in fine and course wheat flour. He argues conclusively to show that whole meal—or flour containing the entire of the ingredients of the wheat—is not only more healthy but more profitable, than fine flour, from which the bran, &c., is excluded.

Venitian Atmosphere.

I am acquainted with an English artist who, being struck by the vivid tints of some stuffs which he saw worn by the women, and which appeared to him precisely the same as those he admired in Titian and Paul Veronese, purchased some pieces of the same fabric and brought them to England; but he soon found that for his purpose he ought to have brought the Venitian Atmosphere with him. When unpacked in London, the reds seemed as dingy, and the yellows as dirty, and the blues as smoky as our own.—*Mrs. Jameson.*

Plants, when drooping, are revived by a few grains of camphor.

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